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Do markets learn from experience?

Price reaction to stock dividends

in the Turkish market

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In this paper we provide an empirical analysis of the announcement and implementation of rights issues and stock dividends in the thinly traded Istanbul Stock Exchange. The efficiency of the Turkish market with respect to this information set is tested at different time horizons characterized by different development levels of the market. Evidence is detected of different price reactions for the different development phases of the market as well as for the board meeting and actual implementation information. As the market matures, neither the board meeting nor the actual implementation of stock dividends–rights offerings cause significant price reactions. Besides the traditional event study methodology, non-parametric tests such as sign and rank tests are also employed but are found to be unsuitable for this particular case.

I. INTRODUCTION

Stock price reactions to announcements of splits and stock dividends have been investigated by many researchers. In earlier studies, e.g. Fama *et al.* (1969), the prime concern was to examine the speed of, and the process by which prices adjusted to the information content of a stock split. Since significant positive announcement effects are documented for many mature stock markets, recent studies test the empirical validity of several hypotheses explaining this phenomenon. Marsh (1979), for example, tested the *price pressure* hypothesis that assumes downward sloping demand curves leading to depressed prices, against the *substitution* hypothesis (Scholes, 1972), which assumes high demand elasticity due to the existence of risky assets as close substitutes and unchanged prices. He used rights offerings as the information set and concluded that the UK market is highly liquid. Similarly, Baker and Gallager (1980) argue that splits enhance the liquidity of firms' shares. McNichols and Dravid (1989) provide evidence for *signalling* hypothesis (Fama *et al.*, 1969) by correlating price changes by the split factor. Woolridge and Chambers (1983) maintain the *trading range* hypothesis by discussing that the management uses its private information to set the split factor so that the stock price is brought back to a popular trading range.

Lamoureux and Poon (1987) claim that price increases after splits are due to the *changing mix of investors* from institutional to individual, which increases the number of stockholders and the trading volume. Asquith *et al.* (1989) claim that the positive announcement effects are due to the expectations that the earnings increases prior to the split are permanent, as opposed to the signalling hypothesis, which is based on anticipation of future cash flows from dividends.

In conducting tests of efficiency for emerging markets by using split announcements, concerns other than the analysis of information content gain importance. One major concern is to distinguish between the informational impact of the 'pure event', i.e. the split announcement and other accompanying information (Grinblatt *et al.*, 1984; Liljeblom, 1989). Another concern is to specify the event date. The event date can be the date of the board meeting when the split decision is made or the press release of this decision (Liljeblom, 1989), or the date when the split is exercised at the stock exchange. The third and supposedly the most important concern in an emerging market is learning (Timmerman, 1993) and the existence of a trend towards market efficiency as the market grows in size and transaction volume (Dawson, 1984). The Turkish market is known to adjust slowly to stock dividend and rights offerings information during the first three years of its operations (Çadırcı,

1990). So far the efficiency of the market with respect to this information set has not been tested at different time horizons characterized by different development levels of the market.

In this paper we provide an empirical analysis of the announcement and implementation of rights issues and stock dividends in the thinly traded Istanbul Stock Exchange (ISE). In order to investigate the impact of the market's level of development and its implications on efficiency, we divide the sample period into two sub-periods. The first sub-period is characterized by low trading volume, ambiguous rules concerning the items to be disclosed as well as their timing, and scarce information on fundamentals. We argue that stock dividends–rights offerings are regarded as indicators of fundamentals like profitability and a fixed asset base, and hence they are received favourably by the market. The second sub-period, on the other hand, displays a higher level of development in terms of accounting standards and disclosure of firm specific information. As a result, stock dividends–rights offerings are taken as what they actually are rather than indicators on fundamentals. We expect cumulative abnormal returns to be lower in the second sub-period. In addition to the traditional *t*-tests, we also experimented with non-parametric tests advocated for thinly traded markets. However, we conclude that, due to the difficulties in the specification of the event date, these tests are not appropriate for this study.

Turkey is a representative case for this type of an event study in emerging markets due to her experience in the establishment and development of a stock market, and specific features of the market in terms of a legal framework. The financial markets in Turkey were highly inefficient and strictly regulated until 1980. Attempts for the liberalization of the country, in general and financial markets, in particular, started at the beginning of 1980s with the introduction of a liberalization package encouraged by the World Bank and IMF. The establishment of the legal framework and regulatory agencies for the stock market was completed in 1982, but it took four more years until the Istanbul Stock Exchange, the only stock exchange in Turkey, became operational, in 1986. The exchange has shown remarkable growth both in terms of trading volume and number of listed companies. By the beginning of 1994 the daily volume of trade was 76.5 million US\$ and more than 150 companies were listed. Today, market capitalization, trading volume, and number of companies listed in ISE are above those in Eastern European exchanges and other European exchanges such as Greece, Portugal and Finland.

One distinct characteristic of the Turkish stock market is the frequency and volume of stock dividends and rights

offerings. Stock dividends are declared from retained earnings, or a *revaluation fund*, an equity account created as a result of inflation adjustment of fixed assets. The inflation rate in Turkey fluctuated between 30% to 70% during the 1980s and early 1990s. Since 1983, corporations are permitted to adjust their financial statements for inflation by using a standard procedure called *revaluation*. Revaluation, as exercised in Turkey, requires the increase of the book value of plant assets by a constant ratio, usually comparable to the inflation rate, announced by the Ministry of Finance. When the value of plant assets and related depreciation expenses are adjusted for inflation, an account called the *revaluation fund* is credited and this account is listed under the equity. Corporations are also permitted to transfer the revaluation fund to paid-in-capital by declaring stock dividends. Since corporations are limited to issue debt up to 600% of paid-in-capital, under the high inflation rates experienced in Turkey most corporations convert the revaluation fund and retained earnings to paid-in-capital by declaring stock dividends so that they can maintain consistent debt to paid-in-capital ratios. Therefore, from an accounting perspective, the aforementioned transaction is a stock dividend, similar to the North American practice. However, the percentage dividend is not limited to 25%. In fact, the range of stock dividend percentages in our sample is 6%–500%, with 80.4% of all stock dividends being above 25%. Hence, investors perceive stock dividends as splits.

In addition to stock dividends, many corporations increase their paid-in-capital by issuing new shares at par value (TL 1000) through a rights offering.¹ In our sample, the average market price per share on the day rights were issued was 12 277 TL, the lowest and highest prices being 600 TL and 155 000 TL respectively. Rights offerings are usually accompanied by simultaneously declared and paid cash dividends. Cash dividends, in most cases, are sufficient to pay the value of the new share, i.e. 1000 TL par value. Therefore, the investor does not usually make any out-of-pocket payment, and hence regards a rights issue as no different than a stock split.²

Typically, rights offerings, cash dividends and stock dividends are declared at the same time. Investors watch out for the total 'split factor', which takes rights offerings and stock dividends into consideration. Therefore, in the Turkish stock market, rights offerings and stock dividends are referred to as stock splits.

This study is designed to consider the emerging market characteristics of the Istanbul Stock Exchange. Announcement dates were collected by a request directed to all the companies traded at the ISE. In conducting the event study, abnormal returns around the board decision and its

¹ During the period under investigation, when new shares were sold at a price above the par value, the premium was subject to corporate tax.

² Banks in Turkey are permitted to declare stock dividends only if they make a rights issue by the same amount.

implementation were calculated for several event windows, and inferences concerning abnormal returns were obtained by using both parametric t -tests and non-parametric rank and sign tests. The trend towards market efficiency, as the market matures, is examined by applying the above mentioned methodology to the two periods which are identified according to the volume of trade and changes in public announcement procedures. Accordingly, the paper is organized as follows. The next section presents the data and methodology. Findings are presented in Section III. Summary and conclusions are reported in Section IV.

II. DATA AND METHODOLOGY

The event study methodology that we employ in this study requires the specification of an unambiguous event date for the stock dividend and rights offering decision. Ideally this event date should be the day on which the decision is first announced to the public. However, such official public announcements by companies were seldom made during the period under investigation for reasons ranging from lack of regulation to public indifference to the importance of the issue. So we had to use the date on which the stock dividend decision was reached in an annual meeting or a board meeting. In Turkey, companies that utilize a 'registered capital' framework can issue stock dividends and rights offerings with the decision of a board of directors. Others need a mandate from the shareholders in an annual meeting. Prior to 1991, firms whose stocks are traded at the ISE did not have to inform the exchange immediately after their decisions. Stock dividends and rights offerings are announced in the ISE Weekly Bulletins since that date; but the announcement may come as late as one full week after the actual decision is obtained. In the announcement, information on the actual date and percentage of stock dividends is reported.

As our investigation period starts from 1988, we decided to obtain the rights offerings–stock dividend announcement information from the companies themselves. In the letter we have mailed to company CEOs, we inquired about (i) the date of the annual meeting or board meeting in which a stock dividend–rights offering decision was taken, since 1988, and (ii) the date and means by which the information on stock dividend–rights issues was publicly announced. The letter was mailed to 125 companies whose names and addresses were listed in ISE (1993). We received 49 responses. Of these, 12 were eliminated for improper responses due to a misunderstanding of our questions. Most companies had more than one stock dividend–rights offering during the period under examination. A total of 109 events between 1988 and 1993 are analysed. Of these, 35 events took place in the 1988–90 period, and 74 events between 1991 and 1993. Daily closing prices of the stocks

are obtained from the Capital Market Board. They are adjusted for splits and cash dividends.

The abnormal return on stock i on day t , AR_{it} , is defined as the difference between daily return, R_{it} , and the return on the market, M_t : $AR_{it} = R_{it} - M_t$. The return on day t is the percentage change in prices between two successive days: $R_{it} = (P_{it} - P_{i,t-1})/P_{i,t-1}$ where P_{it} and $P_{i,t-1}$ represent adjusted closing prices on days t and $t - 1$. The market return is defined in a similar fashion as the percentage change in the levels of ISE Composite Index in two successive days. The average abnormal return on n stocks on day t , AR_t , is given as:

$$AR_t = \sum_{i=1}^n \frac{AR_{it}}{n} \quad (1)$$

For n securities, the average cumulative abnormal returns over an event window extending from $t = t$ to $t = T$; $ACAR_T$, is the sum of average abnormal returns over that period:

$$ACAR_T = \sum_{t=\tau}^T AR_t \quad (2)$$

The t statistics for the average CARs are computed as

$$t = \frac{ACAR_T}{\sigma(ACAR)_T} \quad (3)$$

where $\sigma(ACAR_T) = \sigma(AR_T)(T + 1)^{1/2}$ and $\sigma(AR_T)$ is the variance over the event window.

Measuring abnormal returns by using the market as a benchmark does not take risk differences across stocks into account. However, employing risk adjustment via the market model reduces statistical efficiency due to data limitations (Marsh, 1979). It is also known that, in some situations, methods that do not adjust for risk perform no worse than the market model (Brown and Warner, 1980). Event studies in other smaller markets such as Sweden (Liljblom, 1989) and Finland (Martikainen *et al.*, 1993) as well as mature markets (e.g. Asquith *et al.*, 1989) report that results based on risk adjusted returns are similar to those with market adjusted returns.

We also computed abnormal returns, AR_t , by subtracting the average return on the stock over a completely neutral period from the stock return on day t . The neutral period is taken as the 60 day period from $t = + 31$ to $t = + 90$, where $t = 0$ is the actual implementation of the stock dividend and rights offering. Results were similar to those reported in the paper, hence they are not presented here.

Although the stock dividend–rights offering decision becomes official at the board or annual meeting, we know that the information can leak before the meeting in some cases. This is especially true for larger firms that are partially owned by the government. Alternatively, due to a closely held ownership structure, board decisions of some companies are not made public until a few days after the meeting. For those reasons we chose to examine the cumulative

Table 1. *Main indicators of ISE*

Year	Trading volume (in mil. US\$)	Average daily volume (in mil. US\$)	Market capitalization (in mil. US\$)	Number of listed companies
1988	83.0	0.3	1141.1	79
1989	751.6	2.9	6726.1	76
1990	5226.1	21.0	18 852.6	110
1991	8314.4	33.7	15 533.2	134
1992	8378.2	33.4	9902.5	145
1993	21 278.1	86.5	37 748.5	160

Source: Capital Markets Board (1994), ISE (1994).

abnormal returns around the event date rather than a small event window immediately after the event date. Hence, we considered an event window that starts on day $t = -30$ and ends on $t = 30$ and the parametric t -tests summarized above are carried out for this event window. This choice rules out the use of some non-parametric tests such as the rank test (Corrado, 1989) and sign test (Cowan, 1992) that are particularly useful for detecting abnormal returns on a single day or a small event window when the sample size is small.³

In an emerging market, information on fundamentals such as earnings and dividends is neither reliable nor available to all traders. This is especially true in the initial phase when the market as an institution is in development. At this stage, stock dividends–rights offerings may well indicate fundamentals. In the Turkish market, stock dividends are declared from retained earnings and revaluation of fixed assets. Rights offerings, on the other hand, are new issues that are usually paid for through simultaneously declared cash dividends. Thus, profitable companies with a high fixed asset base are expected to declare stock dividends more often and at higher rates, because higher profits would be accompanied by higher retained earnings, and a large fixed asset base would cause the revaluation fund to be higher. Conversely, higher and more frequent stock dividends–rights offerings could be taken as an indicator of high earnings and a large asset base. However, as the market develops, certain rules and traditions start to take root. For example, procedures for announcing earnings and dividends are clarified and they tend to become uniform across companies. Accounting standards are refined and financial statements are routinely audited. New legislation and regulation for the market are enacted. Hence, fundamentals are now less ambiguous to the traders. Instead of relying on indicators of fundamentals, they can observe them directly from more reliable and consistent sources such as audited financial statements and interim reports. As a result, an-

nouncement effects of stock dividends/rights offerings as an indicator of fundamentals are mitigated. In other words, the market ‘learns’ to react to direct information as opposed to ambiguous indicators.

In order to examine the learning effect in the emerging Turkish stock market, we decided to divide our sample period into two subperiods. The first subperiod covers 1988 through 1990, and the second covers the remaining part, between 1991–1993. In Table 1, we list the trading volume, number of listed companies and market capitalization in all the years between 1988 and 1993. It is clear that the market has matured over the years in terms of depth and breadth. Volume figures indicate that 1990 is the critical year for dividing the sample.

We repeated our analysis with the same sample by utilizing the actual date of the stock dividend–rights offering as the event date. Cumulative abnormal returns around the actual split are compared with those around the board/annual meeting decision. We expect average cumulative abnormal returns to decline in the second subperiod for both event dates as a result of the learning effect. Second, *ACARs* should be higher around board/annual meeting dates than those around the actual split dates especially in the second subperiod. If there is any positive effect of the stock dividend–rights offering decision, the market would capitalize it around the board meeting date.

The reaction of stock prices to the announcement of stock dividends/rights offerings might depend on the ownership structure of the company.⁴ In a closely held company, where shares of stock are not traded very actively, we can expect that information can be made public a few days after the meeting, whereas in a widely held, larger company such information might leak before the ‘event date’. On the other hand, it might also be argued that after the actual implementation of the board decision, trading volume will increase due to the more affordable price range. As the supply

³ We actually employed the rank test and the sign test for an event window of 5 days, from $t = 0$ to $t = 4$. Findings (not reported) did not indicate the presence of abnormal returns.

⁴ We thank an anonymous referee for bringing this issue to our attention.

of shares is more limited for closely held firms, higher demand will cause appreciation of share values. The impact of demand increase resulting from this changing investor mix is not going to be observed for widely held companies.

In order to test differences between closely versus widely held companies, we regrouped our sample based on a composite measure for ownership structure. Most companies traded in ISE are family owned, closely held companies. The first measure we consider for ownership structure is the percentage of shares held by outsiders. However, 'outsiders' in some companies never trade their shares, hence the liquidity of those shares does not depend on the percentage of outside equity. Instead, turnover ratio – defined as the ratio of trading volume to total market value – is a commonly used proxy for liquidity in the Turkish market. We divided our sample into two, using cluster analysis that employs the percentage of outside equity and turnover ratio as the two variables. Group I consists of 16 widely held companies (high outside equity, high turnover), and 21 closely held (low outside equity, low turnover) companies constitute the second group. We repeated the analysis for these two groups at both event dates.

III. FINDINGS

We computed the average cumulative abnormal returns for an event window that extends from $t = -30$ to $t = 30$ for events over the whole sample period as well as the two subperiods. The event date is taken as the day of the board

or annual meeting. The results are summarized in Fig. 1 and Table 2. For all the events between 1988–93, *ACARs* start to pick up around $t = -10$ and reach 6% on day $t = 1$. This figure is statistically significant. The same trend, in a stronger version, is seen in the first subperiod. Here, the *ACAR* on $t = 1$ is 9.5%, and goes up further to 13.5% on $t = 18$. Both are significantly different from zero. The second subperiod, however, displays a different outcome. The *ACAR* on $t = 1$ is only 4.5% and it lacks statistical significance. Hence, it will not be wrong to argue that the significant *ACAR* found for the entire sample is due to the abnormal performance in the first subperiod that covers the years 1988 through 1990.

When the analysis is repeated with the actual split as the event date, average cumulative returns are found to be lower as expected. The bottom panel of Table 2 and Fig. 2 show the results of this analysis. *ACARs* in the first subperiod approach 6% around the event date, but they sharply decline to around zero immediately afterwards. In the second subperiod, no departure from zero is observed in *ACARs* around the event date, however they pick up after $t = 10$, and approach 8% by $t = 30$.

The analysis of price reactions for widely held versus closely held companies reveals some interesting results. As can be seen from Table 3, the two groups do not exhibit markedly different *ACARs* around the board meeting decision. The behaviour of *ACARs* around the actual implementation is considerably different. For widely held companies, we observe negative cumulative abnormal returns that are not statistically significant. However *ACARs* for closely

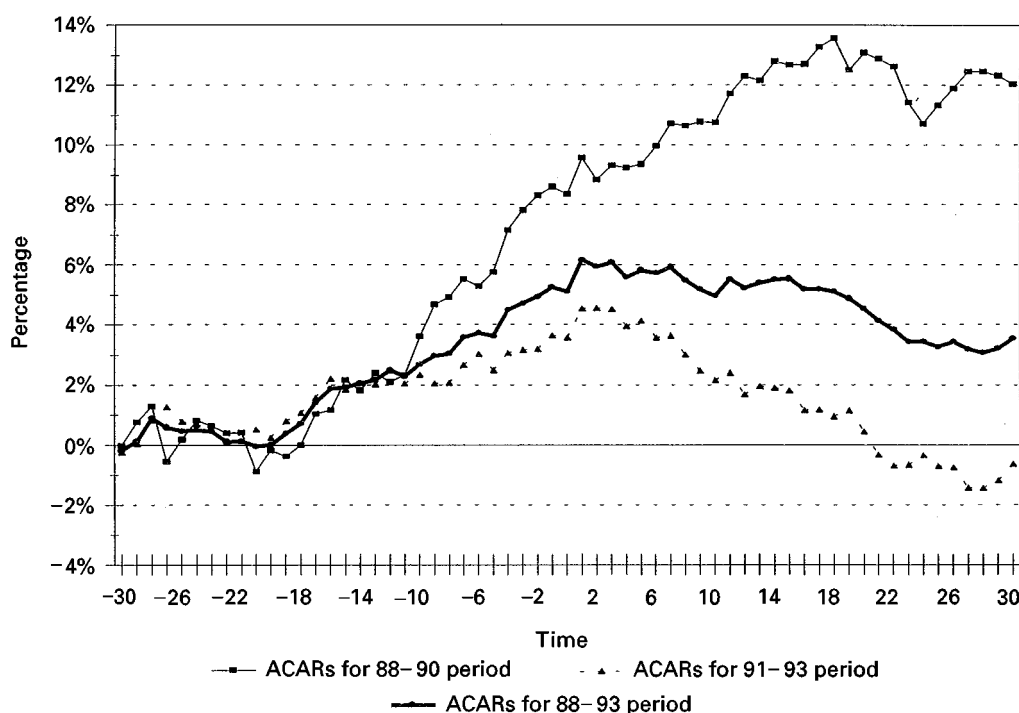


Fig. 1. *ACARs* around board meeting

Table 2. Average Cumulative Abnormal Returns (ACARs)

	Period	ACAR(− 10)	ACAR(0)	ACAR(10)	− ACAR(30)
Board meeting	1988–93	2.69% (1.49)	5.09%* (2.39)	4.94%* (2.05)	3.55% (1.21)
	1988–90	3.60% (1.14)	8.36%* (2.26)	10.75%** (2.75)	12.04%* (2.35)
	1991–93	2.33% (1.07)	3.57% (1.37)	2.16% (0.74)	− 0.64% (− 0.18)
Actual	1988–93	− 1.95% (− 1.14)	1.68% (0.71)	2.82% (0.93)	6.43% (1.79)
	1988–90	− 0.24% (− 0.07)	4.69% (1.06)	0.32% (0.05)	1.76% (0.26)
	1991–93	− 2.62% (− 1.31)	0.50% (0.18)	3.81% (1.06)	8.29% (1.95)

Numbers in parentheses represent *t* statistics
* and ** indicate significance at $\alpha = 0.05$ and $\alpha = 0.01$ respectively.

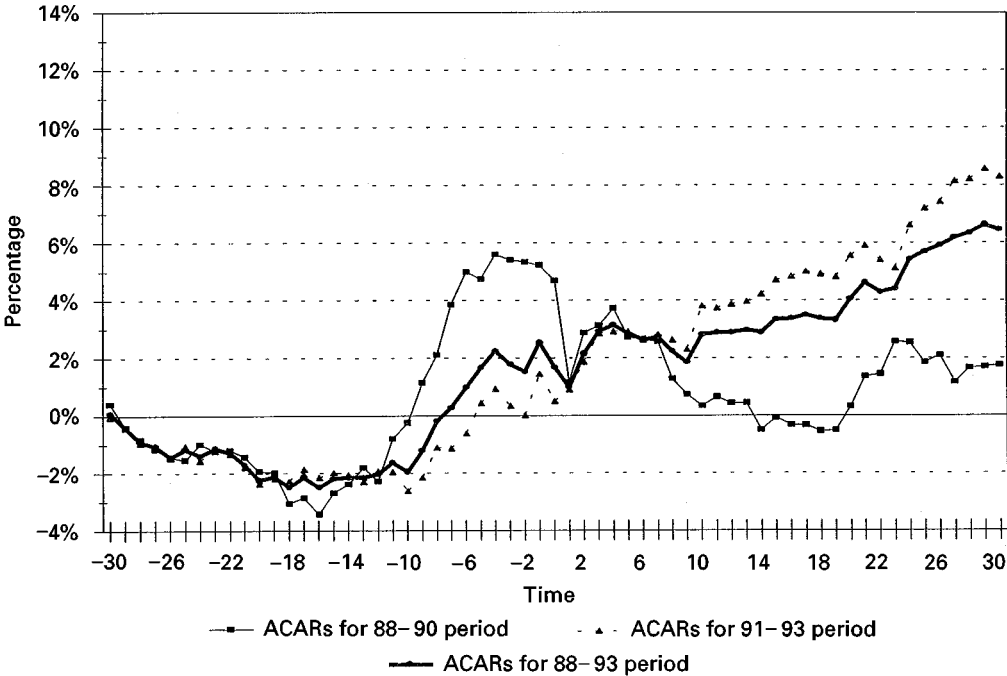


Fig. 2. ACARs around actual implementation

held companies start to pick up 9 days before actual implementation and reach 5% on the event day, 7% after 10 days and 13% 30 days after the event day. The figures become statistically significant after day 10.

The first subperiod (1988–90), which is characterized by low trading volume, fewer listed companies and low capitalization, represents the early childhood in the life of the Turkish stock market. During this period, stock dividends and rights offerings were possibly taken for more than what they actually are. During this initial phase of development the information on stock dividends–rights offerings was

important in the sense that other information sources on fundamentals such as financial statements and interim reports were not standardized in terms of accounting practices and timing of disclosure. With the entrance of more sophisticated traders, enhancement in information flow, and new regulation, it would not be wrong to claim that the market has matured. In this second sub-period, stock dividends–rights offerings were no longer the most important piece of information. In the presence of uniform accounting practices and disclosure requirements more reliable firm specific information became available.

Table 3. Average Cumulative Abnormal Returns (ACARs) by ownership structure 1988–1993

	Group	ACAR(− 10)	ACAR(0)	ACAR(10)	ACAR(30)
Board meeting	I	3.64% (1.16)	5.97% (1.60)	6.62% (1.53)	3.01% (0.57)
	II	2.44% (1.06)	5.04% (1.84)	4.18% (1.37)	4.19% (1.15)
Actual	I	− 4.61% (− 1.67)	− 5.12% (− 1.16)	− 5.34% (− 0.88)	− 5.34% (− 0.79)
	II	− 0.59% (− 0.27)	5.15% (1.88)	6.99%* (2.01)	12.47%** (2.98)

Group I and Group II represent widely and closely held firms, respectively. Numbers in parentheses represent *t* statistics.

* and ** indicate significance at $\alpha = 0.05$ and $\alpha = 0.01$ respectively.

Table 4. Correlation coefficients

Event date	Period	Variable	ACAR(0)	ACAR(10)	ACAR(30)
Board meeting	1988–93	Sd. Div.	0.1106 (0.27)	0.2082* (0.04)	0.1327 (0.18)
		SD + RO	0.0820 (0.41)	0.1818 (0.07)	0.1339 (0.18)
	1988–90	Sd. Div.	0.2980 (0.10)	0.3411 (0.06)	0.1918 (0.30)
		SD + RO	0.1859 (0.31)	0.3101 (0.08)	0.1500 (0.42)
	1991–93	Sd. Div.	− 0.0470 (0.70)	0.0688 (0.57)	0.0368 (0.76)
		SD + RO	− 0.0139 (0.91)	0.0478 (0.69)	0.0791 (0.52)
Actual	1988–93	Sd. Div.	− 0.0934 (0.35)	− 0.0485 (0.63)	− 0.1809 (0.07)
		SD + RO	− 0.0279 (0.78)	− 0.1406 (0.16)	− 0.2515** (0.01)
	1988–90	Sd. Div.	0.1267 (0.51)	0.0280 (0.88)	− 0.0233 (0.90)
		SD + RO	0.1021 (0.59)	− 0.1648 (0.38)	− 0.1790 (0.34)
	1991–93	Sd. Div.	− 0.2527* (0.03)	− 0.0937 (0.43)	− 0.2705* (0.02)
		SD + RO	− 0.1354 (0.25)	− 0.1122 (0.35)	− 0.2978** (0.01)

The numbers in parentheses represent two-tailed significance level of the correlation coefficients.

* and ** indicate significance at $\alpha = 0.05$ and $\alpha = 0.01$ respectively.

Significant abnormal returns in the first sub-period points to a lack of market efficiency. It could be argued that slow building up of ACARs could be due to different patterns of information release by the companies. Firms with relatively wider ownership might leak the information before the event date (i.e. board or annual meeting), whereas information from closely held companies may not become public until several days after the event date. Since ACARs are averages across companies, an efficient market could also portray a similar picture provided that stock

dividends–rights offerings have a favourable impact. However, we see from Table 3 that ownership structure does not affect the pattern of ACARs around the board meeting date. Hence, the above argument for efficiency is not supported. We do not observe the effect of ownership structure on information release but instead a significant effect of changing the investor mix (Lamoreaux and Poon, 1987) on the demand side by attracting the small investor after the implementation of the stock dividend–rights offering decision.

During the second subperiod, as more sophisticated investors, both individual and institutional, enter the market, the average investor becomes more rational. Another consequence of such new entrants to the market is increased trading volume, which in turn attracts more newcomers. The removal of controls on capital movements in August 1989 resulted in the entry of foreign investors to the Turkish market. This has also contributed to the greater sophistication in the investor mix and hence to market efficiency.

If the market regarded stock dividends–rights offerings as indicators about fundamentals, or simply regarded them irrationally as valuable for some reason, then a company can increase the value of its stock by keeping its percentage rate stock dividends–rights offerings as high as possible. Hence, we would expect the stock dividends–rights offerings percentage to be positively correlated with average cumulative abnormal returns. To that end we computed correlation coefficients between *ACARs* and the percentage stock dividend–rights offering rates for the entire sample period, as well as the two subperiods. As before, we considered both the board meeting and the actual split as the event date. The correlations are reported in Table 4. Coefficients for the board meeting data are mostly positive. In the first subperiod, all correlations are greater than zero, with some coefficients being statistically significant. The second subperiod, however, has some negative numbers and all are very small in magnitude. Correlation coefficients turn out to be negative for the events defined by the actual implementation date.

The figures in Table 4 confirm our earlier findings. The market was favourable to stock dividends and rights offerings in the earlier sub-period. However, a favourable response disappears and even becomes unfavourable after actual implementation. This points out the possibility of the presence of an illusion on stock dividends–rights offerings. The illusion disappears when some traders sell off their holdings after the actual implementation. Hence, they no longer display a positive response to stock dividends–rights offering information, as evidenced by lack of correlation in the second subperiod.

IV. CONCLUSIONS

The purpose of this paper is to analyse whether the announcement or the implementation of stock dividends and rights offerings convey new information in a thinly traded market where fundamentals are neither reliable nor available to all traders. The analysis is conducted by controlling for different institutional phases of the market and by using the traditional event study methodology. Non-parametric tests such as rank and sign tests are also employed and are found to be unsuitable for this particular case.

The analysis is based on a mail survey inquiring into the date of the board or annual meeting in which a stock dividend–rights offering decision was made. Price reactions to a total of 109 events, of which 35 took place during the initial phase of the market, were analysed for both board decisions and actual implementation of the stock dividend–rights offering decisions. We also examined whether price reactions were different for firms grouped according to ownership structure – closely versus widely held companies.

Using traditional event study methodology, evidence is detected of different price reactions for the different development phases of the market as well as for the board meeting and actual implementation information. Significant positive price reactions are observed in the initial phase of the market for board decision disclosures with abnormal returns up to 13.5% on day 18. As the market matures in the second phase neither the board meeting nor the actual implementation of stock dividends–rights offerings cause significant price reactions. This trend should be interpreted as a sign of market efficiency as the market matures, rather than of different patterns of information release, for no differences between closely versus widely held companies are observed in terms of abnormal returns around the board meeting dates.

Since price reactions were positive for the initial phase, we tested the correlations between the magnitude of price reactions and stock dividends–rights offering percentages for both the board decision and actual implementation date. As expected, the correlations are significant for the initial phase of the market and for the board meeting decision for a ten day event window. Both the length of the event window for positive price reactions and their realization during the development phase of the market suggest that price reactions are due to the lack of timely information about the fundamentals of the companies during the initial phase of the market. In this period, stock dividend–rights offering decisions contained information either as indicators of future profitability or that previously realized earnings are permanent. Similar to Lamoureux and Poon (1987), but in a different context, we would also argue that the shift to efficiency is due to the changing mix of investors. In an emerging market setting the changing mix of investors from institutional to individual investors is not due to the changing trading range but to the cultivating awareness about the market.

Finally, we should mention that the non-parametric tests such as the rank test and the sign test suggested for thinly traded markets were not superior to the traditional event study methodology in this case. The rank test is known to be sensitive to the length of event window (Cowan, 1992). In our case, contrary to Corrado's (1989) one day event window, the event window is significant up to 18 days. The sign test is superior to the rank test in the case of extreme abnormal returns and this was not the case for our sample.

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